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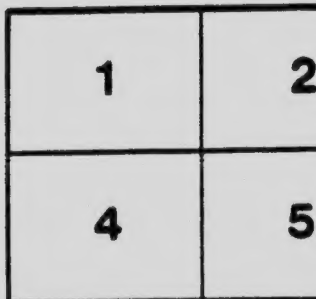
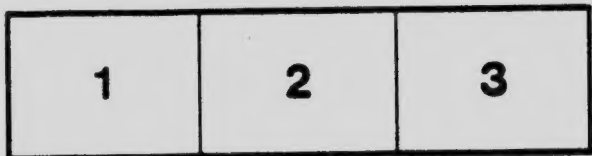
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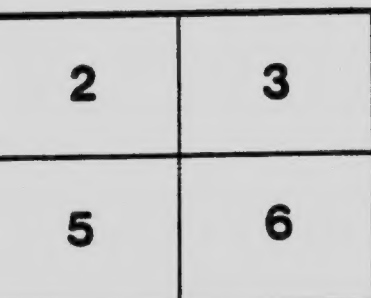
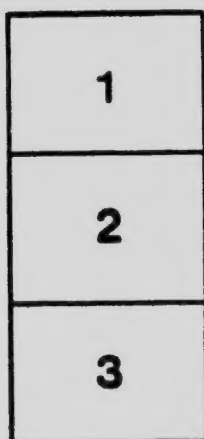
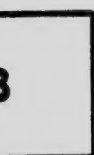
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GROWING GRAIN ON THE PRAIRIES

BY

J. H. GRIDDALE, B.AGR., *Director Dominion Experimental Farms.*

The demand for all grains will ver, probably be good in the fall of 1917. It will, therefore, be all the more advisable to produce as large crops as possible.

"INCREASE THE AREA" alone, is a poor watchword. **"AS MUCH AS CAN BE PROPERLY HANDLED"** is the right idea.

Early on the land, with everything ready beforehand and a fixed determination to put the seed in well and to put in as many acres as you can possibly do well, will work wonders in the way of raising the average acre yield and increasing the average acreage under grain for each farmer.

Thorough preparation of the land intended for grain is not only advisable but an absolute necessity on the prairies. Here, where the growing season is short at best, no one can afford to neglect any precaution likely to hasten germination, ensure steady growth, or in some measure guarantee early ripening.

The suggestions offered herewith are based on experimental work extending over a period of twenty-five years or more.

WINTER WORK.

MOTIVE POWER AND IMPLEMENTS.

Whether horses, oxen, steam tractor or gasoline tractor be used to do the farm work, care should be taken to have them in good shape for work before actual seeding operations begin.

Horses or oxen in poor flesh or long idle cannot be expected to do good work when the rush begins. Feed well for some weeks before seeding can possibly begin, and give considerable exercise with a view to getting them into condition for the rush at seed time.

Tractors, whether steam or gas, should be thoroughly overhauled and tried out some weeks ahead of seed time. Repairs come slowly when the land lies ready, better have a few of the more commonly needed parts or repairs on hand before work really begins.

DO THESE THINGS NOW.

THE SEED.

GERMINATION TEST.

If not sure of the germinating qualities of your seed try it out before sowing.

Send a sample to the Dominion Government Seed Laboratories at Calgary or Ottawa or, what will answer the purpose quite as well and possibly better, test it yourself.

DOMINION EXPERIMENTAL FARMS.

J. H. Grisdale, B.Agr.,

Director.

SPECIAL CIRCULAR No. 1.

To do this proceed as follows: Count out a hundred kernels, the run of the grain, sow in some of your own soil in a shallow box placed in a sunny window and kept at comfortable living-room temperature. Keep soil damp but not wet. Note the growth for two weeks. If only part of the seeds germinate or if the plants grow very slowly it will be necessary to sow proportionally more seed to the acre.

TREATMENT FOR SMUT.

The cost of treating grain for Smut is so very low as compared to the increased yield likely to result therefrom that it should be considered as one of the indispensable practices of every grain grower.

Always treat wheat and oats.

The following treatments will be found most effective:—

Blue Stone Solution.—5 pounds commercial bluestone to 50 Imperial gallons of water.

Formalin Solution.—1 pound of formalin (normal strength) to 40 Imperial gallons of water.

Steeping Method.—In bluestone solution, immerse grain not less than two minutes—not more than three minutes. In formalin solution, not less than four minutes and not more than five minutes.

Sprinkling method.—Heap grain on clean floor. Sprinkle either solution over it with broom or can; mix well; 40 gallons will treat 40-50 bushels of grain. When using bluestone, spread out to dry at once after mixing. Form grain into pile when using formalin, and cover for three hours with bags—then spread out and dry.

Moist grain cannot feed the drill as freely as dry grain—adjust your drill.

NOTE.—For detailed information on subject, ask for Exhibition Circular 24 or Experimental Farms Bulletin 73, Publications Branch, Ottawa, Ont.

SOIL PREPARATION.

FOR WHEAT, OATS AND BARLEY, ON SUMMER FALLOWED LAND.

The treatment to give the land both before and after seeding depends upon the character of the soil and the fall preparation.

All land should be harrowed as soon as it is possible to get thereon in the Spring. The harrowing helps warm it up and conserves the moisture.

All land should be in good shape for seed, that is, fairly fine on the surface, quite firm and as smooth as possible before any seed is sown thereon.

After you think the field is just right, give it another stroke of the harrow. Thorough, yes, extraordinary soil preparation pays and pays well.

ON STUBBLE LAND.

For fall-ploughed stubble land the treatment should be the same.

Unploughed stubble land to be sown to wheat might be burnt over the first warm, windy day in the spring, then given one or two cuts with the harrow before seeding, and once over after seeding.

If stubble will not burn readily or if it is moderately short and therefore need not be burned over, double disc before seeding, and harrow afterwards.

Where it is intended to sow stubble land to oats or barley, spring ploughing 4 or 5 inches deep will be found to be the best preparation. If not possible to plough, then treat as for wheat.

FOR FLAX.

Flax is usually a profitable crop. It may be sown on any kind of soil. Unlike other crops, it will even do well on prairie breaking, provided it is sown not later than the end of May.

FLAX ON BREAKING.

Break or plough 3 inches deep, disc well, and sow. Roll or pack before discing if breaking is rough or broken, roll or pack after seeding if a good job of breaking was done. Sow 30 to 40 pounds of seed to the acre.

QUANTITIES OF SEED TO SOW.

WHEAT.

The quantity of wheat to sow to the acre, while an important matter is one that must be decided at the time of seeding and according to the season and the condition of the land.

Thick or heavy seeding usually matures more quickly than thin or light seeding.

Light, poor land will not carry satisfactorily as heavy a seeding as strong, rich soil.

A safe rule is to sow from $1\frac{1}{2}$ to $1\frac{1}{2}$ bushels of wheat to the acre on a good strong summer-fallow; the lighter seeding if put in early, a considerably heavier seeding if late in season before seeding is done.

On stubble land a considerably lighter seeding should be given. If the land is rather dry, possibly 3 pecks per acre would give the best results.

OATS AND BARLEY.

Oats and barley should be sown as soon as possible after wheat is in. The same general directions as to relative quantities of seed apply as in the case of wheat. Sow $1\frac{1}{2}$ to 2 bushels seed to the acre according to fall preparation and character of the soil.

FLAX.

Flax should be sown on summer-fallow or new land at from 30 to 40 pounds to the acre, the lighter seeding on lighter soil and heavy seeding on strong, rich soil. Do not sow too early, May 15 is quite sufficiently early. On stubble lands a lighter seeding should be given, say 25 to 30 pounds to the acre.

The rates of seeding for the above crops are summarized on the back of this circular.

PREPARE FOR NEXT YEAR'S CROP.

Once the seeding is done for this year, begin to get ready for next year's crop.

Too much importance cannot be attached to early and thorough preparation for the next year.

The proper and necessary preparation is the summer-fallowing of at least one-third of the cropping area, where that area or any part thereof has been under crop for more than one year.

Two crops will almost invariably exhaust the moisture in any given area in Saskatchewan or southern Alberta. In the drier parts of these provinces, as, for example,

southwestern Saskatchewan and southern Alberta, one crop on summer-fallow usually reduces the soil moisture to such a low percentage as to suggest the necessity for another summer-fallow. Hence, in these parts, it is frequently advisable to summer-fallow every second year instead of every third year as recommended for those parts of these provinces somewhat more favourably situated as to rainfall.

SUMMER FALLOWING METHODS.

The summer-fallow treatment should be begun by giving the field a good ploughing. Plough from 7 to 8 inches deep. Plough the forepart of June and thus prepare the land to receive and hold the June and July rains. Harrow right after ploughing or, better still, at the same time, certainly not later than the next day. There is only one right way to handle the land after ploughing. Instructions as to handling might, however, be given in several apparently distinct sentences, although they all amount to the same thing, thus:—

1. Cultivate the summer-fallow frequently throughout the growing season; or
2. Keep the summer-fallow black; or
3. Maintain a mulch or dust coat on the fallow;
4. Do not allow weeds to grow on the summer-fallow.

POINTERS.

TREAT THE SEED FOR SMUT.

(See page two.)

Do the seeding early. Early-sown crops have a considerably better chance of giving good returns than late-sown crops.

RATES OF SEEDING TO ACRE.

On Summer-fallow or New Land.	On Stubble.
Wheat, $1\frac{1}{4}$ to $1\frac{1}{2}$ bushel.	$\frac{3}{4}$ to $1\frac{1}{4}$ bushel.
Oats, $1\frac{1}{2}$ to $2\frac{1}{2}$ bushels.	$1\frac{1}{2}$ to $1\frac{3}{4}$ bushels.
Barley, $1\frac{1}{2}$ to $2\frac{1}{2}$ bushels.	1 to $1\frac{3}{4}$ bushels.
Flax, 30 to 40 pounds.	25 to 30 pounds.

DEPTH TO SOW SEED.

The seed should always be sown deep enough to be **INTO** the moist earth. From 2 to $2\frac{1}{2}$ inches is a safe depth no matter how much moisture may be in the soil. If the land is very dry, go deeper.

- (a) On summer-fallowed land sow about two and one-half inches deep.
- (b) On stubble land sow about three and one-half inches deep.
- (c) If ground is rather dry at seeding time, sow a little deeper.
- (d) If ground is fairly damp, a little less pressure is needed.

THE PACKER.

If ground is very loose, pack either before or after seeding.

